



Bridge Inventory & Structural Recommendation Report For New Bridge Project

**Geneva Road; Provo Center St/I-15 to (Orem) 1600 North
(EIS by Horrocks Engineers)
(New Bridge by Stanley Consultant)**



Region: 3	Project Manager: Phil Huff
Pin: 5689	Project Number: HPP-TI-0114(12)0E HPP-TI-0114(11)3
FiNet Number: 5231101D/5230201D	Fiscal Year: 2009/2011

Prepared by/Date: Tyson Schultz & Cody Buzianis /March 27, 2008
Signature, Director of Bridge Design: Stan Burns
Signature, Director of Bridge Operations: Rukhsana Lindsey

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REPORT SUMMARY

Scope of Project:

1. Purpose of Report

This report presents a conceptual overview for construction of a New Bridge on Geneva Road at 400 South in Orem. Current development and studies indicate that the railroad crossing at 400 south can block Geneva Road for twenty minutes causing traffic back up. Current studies identify that building a bridge over the railroad crossing at 400 south in Orem will be necessary for this roadway widening project. Stanley Consultant will perform new bridge design. This report is intended to convey the need, scope, schedule, budget, safety and quality control process for the structure portion of this project.

2. Project Information

Region: 3 **Route No.:** Geneva Road **Date:** March 2008

Project Name: Geneva Rd; Provo Center St/I-15 to Orem 1600 North

R.P.: Geneva Rd & 400 S

Project Number: HPP-TI-0114(12)0E/HPP-TI-0114(11)3

PIN: 5548/5510

FiNet: 5231101D/5230201D

Project Design: Bridge: UDOT Structures Division; Region 3

Project Mgr: Phil Huff

3. Deficiencies & History:

None - New Bridge Construction.

4. Plan:

A study of the area will take place on Geneva Rd between 280 North and 400 South in order to develop and identify an estimate for a new bridge construction over a railroad crossing. From this study a new approach will be considered to relieve the current traffic condition by allowing a continuous traffic flow over the railroad crossing. There are three alternative approaches to the bridge construction. The 1st roadway option will be to minimize historic impact to the surroundings, the 2nd option will be to shift the roadway to the west (the bridge length must accommodate lake bottom canal), and the 3rd option will be to shift the roadway to the east.

5. Work items to be completed:

This project will include the following items

- Construction of the New Bridge over railroad crossing on Geneva Rd.

6. Work items to be deferred:

This project won't include the following items:

- Roadway and safety items beyond what is related to the new bridge construction.

7. **Design Exceptions:**
No Design Exceptions are expected.
8. **Maintenance Considerations:**
Include Region 3 Maintenance Station 3427 in the concept development.
9. **Construction Considerations:**
Limitations of Operations, Incentives, A+B, CMGC and Design Build will be evaluated.
Accelerated bridge construction methods such as precast deck panels and precast approach slabs will be used on structure.
10. **Risk Analysis:**
Project costs increase as risks increase. Partnering between the owner, designers, suppliers, contractors, is the key to success of the project. The use of innovative contracting methods such as design-build, Construction Management General Contractor (CMGC) will be considered.
11. **Development Process:**
- | | |
|-----------------------------|---------------|
| New or Major Reconstruction | <u> x </u> |
| Rehabilitation | <u> </u> |
| Preservation | <u> </u> |

Schedule of Project:

The overall project is dependant on the schedule of the roadway project

Budget of Project:

	<u>EIS</u>	<u>Construction</u>
1. Funding Source:		
2. CAA	\$ 2,500,000	\$ 56,930,969
3. New Bridge Cost Estimate:	\$ 0.00	\$ 31,433,622 (2011 Dollars)

Structure: New Bridge at 400 South Geneva Rd. in Orem				
ITEM	QUANTITY	UNIT	UNIT COST	TOTAL COST
Structures				
New Bridge over Railroad 400' X 143' (use ABC methods PFBE)	57200	SF	\$ 300.00	\$ 17,160,000.00
MSE Walls ((25' X 143')+(2 X 25 X 75))2	14650	SF	\$ 60.00	\$ 879,000.00
Bridge Grinding	5422	SY	\$ 10.00	\$ 54,222.22
Polymer Overlay	48800	SF	\$ 8.00	\$ 390,400.00
Railroad Insurance / Permit	1	LUMP	\$ 50,000.00	\$ 50,000.00
Railroad Flaggers	60	DAYS	\$ 1,000.00	\$ 60,000.00
Structure Subtotal				\$ 18,593,622.22
Traffic Control				Included In Roadway
Mobilization				Included In Roadway
Public Information Service				Included In Roadway
M.O.T.				Included In Roadway
Project Subtotal (2008 Dollars)				\$ 18,593,622.22
PE/CE 18%				\$ 3,346,852.00
Contingency 20%				\$ 3,718,724.44
Project Total before Inflation				\$ 25,659,198.67
Inflation Rate @ 7% over 3 years				\$ 5,774,423.05
Project Total (2011 Dollars)				\$ 31,433,621.71

Quality Control Process:

1. Project Management & Team:

This project will include the use of a Project Manager and Team concepts to ensure quality throughout the project. It is recommended that the following areas be represented on this team:

Recommended Team:

Pavement Mgt.	<u>x</u>
Dist. Rep.	<u>x</u>
Materials	<u>x</u>
Traffic & Safety	<u>x</u>
Maintenance	<u>x</u>
Planning	<u>x</u>
Right-of-Way	<u> </u>
Structures	<u>x</u>
Preconst.	<u>x</u>
Construction	<u>x</u>
Environmental	<u>x</u>
Contractor	<u>x</u>

2. Design Process & QC/QA Process:

The design of this project will follow the format of UDOT's "Design Process Manual", and Project Management Process. A Quality Control/Assurance Plan will be developed with assignments for quality control and assurance given to various team members. UDOT's ePM system will be used to maintain project schedule and manage resources. The team members, using a common LAN drive on UDOT's computer system, will manage document control jointly.

3. Reference Manuals, Specifications, and Guidelines:

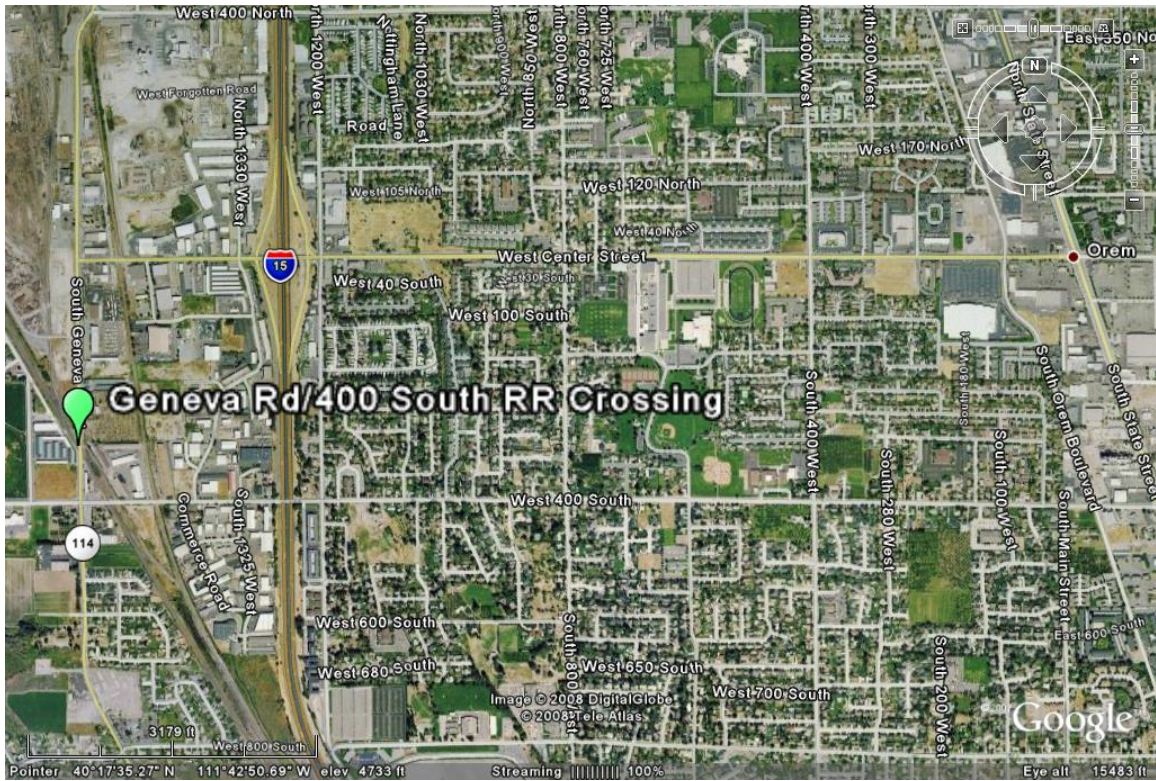
The following reference manuals, specifications, and guidelines should be used on this project:

UDOT Project Management Guidelines
ePM
AASHTO Bridge Design Guidelines
AASHTO Geometric Design Manual
MUTCD Manual
Roadside Design Manual
UDOT Standard Specifications (CSI), and Standard Drawing

Appendix

Bridge Inspection & Condition Reports

Location Map



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